Math 9 Assignment #5d Due Date: _____

Name: _____

Mark _____ / 36

Directions: All questions must be completed on loose leaf. A calculator is allowed. Please reduce any fractions to lowest terms. Place a box around your final answer. **ALL WORK MUST BE SHOWN FOR FULL VALUE.**

Part A: **/12**

1) Evaluate each of the following: (2 marks each)

a) $\sqrt{\sqrt{6+3}+5^2-3\times 4}$ **b)** $-3.7+4.2\times(-2.4)-6.6\div(-2)$

c) $\left(-\frac{2}{6}\right)\left(-\frac{2}{6}\right)\div\left(\frac{2}{36}\right)-\left(-\frac{4}{6}\right)$

2) Simplify (1 marks each)

a) $\left(6^2\times 6^5\right)\times 6^6$ **b)** $\frac{\left[(-3)^2\times(-3)^4\right]^2}{(-3)^6}$ **c)** $\frac{-\left(4^2\times 2^5\right)^3}{\left(2^4\times 4^6\right)}+2^6\times 2^0$

d) $(5x+2)+(3x-6)$ **e)** $(-5r-3)+(-5-3r)$

f) $(7h^2-3)+(-3h^2-2h+2)$

Part B: **Please answer all questions. 3 marks each** **/12**

1) Are the polynomials $3t^2-7t+3$ and $-7t+3+3t^2$ equivalent? Explain your reasoning.

2) Each polynomial represents the perimeter of a rectangle. Sketch algebra tiles to make a rectangle they could represent.

a) $8d+2$ **b)** $6f$ **c)** $4+4k$

3) One half of a number is increased by one third of the same number. Create an expression for this. Make sure to simplify your expression.

4) Mr. Glenwright, Mrs. Cameron, and Mr. van Raalte all collect coffee mugs. Mrs. Cameron has 6 fewer than Mr. Glenwright, and Mr. van Raalte has 5 more than Mr. Glenwright. Write a polynomial to express how many coffee mugs they all have in total.

Part C: Complete question 1 and choose any 2 of the remaining 3 questions. 4 marks each /12

1) Use algebra tiles to model the polynomial that fits each description. Sketch the tiles you used.

a) a second-degree trinomial in the variable *y,* the coefficients of the variables when the polynomial is written in descending order are -3 and -5, and with a constant term 7
b) a first-degree binomial in the variable *x*, with constant term -2, and the coefficient of the other term is 6.

2) A homeowner is installing a swimming pool in his backyard. He wants its length to be 2 metres longer than its width. Then he wants to surround it by a concrete walkway that is 1 metre wide. Write an expression for the outer perimeter of the walkway.

3) A rectangle has a perimeter of $18w+6$. The sum of any two adjacent sides is $9w+3$, and the sum of the two shorter sides is $6w+2$. Determine the expression of the length of each side.

4) Koen and Grayson both have jobs, and they work the same amount of hours per week. Their pay rates and expenses are below:

	Pay Rate	Weekly Expenses
Koen	$13.50 per hour	$32 uniform rental
Grayson	$10 per hour	$36 for gas

Write a polynomial to represent their combined take-home pay for Koen and Grayson.